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SHEET-FORM MEMBRANE SAMPLE PROBE, METHOD AND APPARATUS FOR FLUID CONCENTRATION ANALYSIS

Abstract

A sheet form membrane probe, an apparatus and method, wherein the probe includes a probe body, a sheet-form membrane secured to the probe body and including an open surface exposed to the exterior of the probe; a channel formed between the probe body and the membrane through which a collector fluid can flow; an inlet port opening to the channel to conduct collector fluid to the channel; and an outlet port spaced from the inlet port such that the collector fluid passes through the channel from the inlet port to the outlet port in a flow direction substantially parallel to the membrane. The channel may be formed to provide broad surface contact of the collector fluid with the membrane. The membrane open surface may include an active area open to a sample fluid and open on an opposite side for contact with collector fluid flow in the channel. The active area may be large relative to the total membrane area to provide for an effective use of the expensive membrane material. Another probe includes a fitting

end and a membrane stem and secures membranes to at least two sides of the membrane stem such that permeation can occur along a channel passing from the fitting end along the membrane stem and returning to the fitting end from the membrane stem.